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ABSTRACT

A study was undertaken to investigate gender differences in the career paths of aspirant and incumbent certificate holders for line positions within educational administration. In October 1985, 1,338 Pennsylvania certificate holders were mailed a 4-page survey probing the areas of career pathways, job search strategies, time usage, mentor's functions, and barriers experienced. The 622 respondents included 205 male incumbents, 173 male aspirants, 93 female incumbents, and 151 female aspirants. The results indicate that two-thirds of the female certificate holders were channeled into staff positions where their performance is directed by line officers. These women's contributions may remain largely unrecognized or undervalued because organizations tend to recognized only overall goal accomplishment which is typically attributed to the line officer. While the men in this study served 2.5 years longer than the women in terms of their educational experience, the men had gained 4 years by the time they attained their first administrative position. These findings cannot be attributed to either an unwillingness of women to move or to extended absences due to female parental obligations; it is apparent that administrators must reexamine their promotion policies and attitudes to determine whether opportunities for women to assume line positions are being provided. Tables indicating the quantitative results of the survey are included. (23 references) (KM)

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Gender Differences in the Career Paths of Aspiring and Incumbent Educational Administrators

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Gender Differences in the Career Paths of Aspiring and Incumbent Educational Administrators

The purpose of this study was to investigate gender differences in the career paths of aspirant and incumbent certificate holders for line positions within educational administration. The respondents held certificates for the superintendency, the assistant superintendency, the secondary principalship and the elementary principalship. The incumbent certificate holders were also employed within these line positions, while the aspirant certificate holders had not yet achieved an administrative appointment that corresponded with their highest level of certification. The career paths of the respondents were analyzed to determine whether men and women share common career path experiences as they strive to achieve an administrative appointment or whether there are differences in their career paths that may contribute to the underrepresentation of women within administrative line positions. Five general categories of career path variables were analyzed. They include line/staff path, leaves, external mobility, credentials, and teaching/administrative experience.

Research Design

An ex post facto design was employed to investigate whether gender, certificate level or the interaction of gender and certificate level were associated with differences between aspirants and incumbents in terms of career path variables. The data analyzed in this study was collected in a survey of aspiring and incumbent Pennsylvania certificate holders conducted by Pavan (1985), Temple University.

Population and Sample

The population surveyed by Pavan (1985) included Pennsylvania aspirant and incumbent line administrators who held certificates for the superintendency, the assistant superintendency, the secondary principalship and the elementary principalship. Pavan utilized the Pennsylvania Department of Education's data bases for sample selection which provided records of names and certificates held as well as current positions and work locations for individuals employed within Pennsylvania school districts. The data bases were merged and random samples of 100 were drawn for all subgroups that contained sufficient numbers of certificate holders issued certificates since January, 1970. Twelve subgroups contained samples of 100 subjects. They included incumbent male superintendents, assistant superintendents, elementary principals and secondary principals; aspirant male superintendents, assistant superintendents, elementary principals and secondary principals; incumbent female elementary principals; and aspirant female assistant superintendents, elementary principals and secondary principals. Four subgroups were found to contain less than 100 subjects; therefore, the total population within each of these subgroups was included in Pavan's sample as follows: Incumbent Female Superintendents (19); Incumbent Female Assistant Superintendents (14); Incumbent Female Secondary Principals (29); and Aspirant Female Superintendents (76) (Pavan, 1985). The sample was surveyed in October, 1985. Respondents included 205 male incumbents, 173 male aspirants, 93 female incumbents and 151 female aspirants (see Table 1). The overall rate of return for the survey was 622 or 47%. Each of the following reasons accounted for the non-responses: retirements, job changes, incorrect addresses, district offices not forwarding to the school

where the individual was assigned, errors in certification data base, errors in employment position data base, computer assignment errors, and unwillingness of individual to spend 30 minutes to respond to questionaire (Pavan, 1986).

Instrument

The survey instrument consisted of four pages. Each section presented questions requiring either ranked item responses, closed form item responses, open item responses or Likert scale responses. The instrument was designed by Pavan (1985), Temple University following an extensive literature review to study those individuals who held administrative certificates whether or not they were employed in a line position that corresponded to their highest certificate level. "The survey probed five areas: career pathways, job search strategies, time usage, mentors and their functions and barriers experienced with strategies used to overcome them "(Pavan, 1986, p.9-10). Pavan piloted parts of the instrument with women during several conference presentations and conducted a field test of the complete instrument on 12 men and women who resided in other states and who were also representative of the sample (Pavan, 1986).

Summary of Differences

Findings will be presented in the following order: career path; leaves; number of moves; age at which bachelor's, master's and doctoral degrees were conferred; age at which certification for the superintendency, the assistant superintendency, the elementary principalship and the secondary principalship were obtained; age in teaching; years in teaching; age at first administrative appointment; years in administration and total years of educational experience. Results of this analysis will only include findings

of significance unless otherwise stated. The total number of respondents included in each analysis may vary due to insufficient data reported on the survey returns.

A line career path is defined as a career path which begins with teaching and proceeds through successive line positions and which also allows for employment in one staff position (McKee, 1988). Respondents who do not follow a line path have moved through a series of staff positions following teaching with the possible exception of one line appointment.

A line career path was taken by 49% of the respondents with 59% of the men as compared to 33% of the women following a line career pattern. Table 2 presents these findings. Incumbents (70%) were over twice as likely as aspirants (31%) to follow a line path with female aspirants at all certificate levels reporting the lowest percentage of line paths when compared to incumbent women and aspiring/incumbent men. Certificate holders for the superintendency (59%) were most likely to follow a line path, followed by certificate holders for the secondary principalship (54%). Certificate holders for the assistant superintendency (40%) and the elementary principalship (43%) reported similiar percentages. Male incumbent elementary principals had the highest percentage (93%) of respondents in this subgroup reporting a line path followed by male incumbent superintendents (86%). Both incumbent female superintendents (54%) and aspirant male superintendents (56%) reported similiar line patterns while women aspiring to an elementary principalship (6%) had the lowest percentage of respondents in a line path. While percentages of aspirants in line paths at all certificate levels were lower than the percentages of incumbents, the aspiring elementary principals (9%) reported a significantly lower percentage of respondents on a line path when

compared to aspiring superintendents (43%), aspiring assistant superintendents (31%) and aspiring secondary principals (40%).

Leaves included the total number of leaves reported by respondents, as well as the number of leaves taken for family, study and military obligations. Table 3 presents these findings. Leaves were taken by 23% of the respondents with 34% of the women and 16% of the men reporting leaves. Aspirants (26%) and incumbents (20%) took similar percentages of leave with certificate holders for the superintendency (34%) and the assistant superintendency (32%) more likely to have taken leaves than certificate holders for the elementary principalship (14%) and the secondary principalship (13%). Female incumbent superintendents (62%) were most likely of all respondent subgroups to report leave followed by aspiring female assistant superintendents (51%). Aspiring male secondary principals (3%), incumbent male elementary principals (4%) and incumbent male secondary principals (4%) were least likely to report having taken a leave. Aspirants for the assistant superintendency, the elementary principalship and the secondary principalship reported higher percentages of leave as compared to incumbents in these positions; however, the incumbent superintendents (40%) were significantly more likely than aspiring superintendents (30%) to have taken leave.

Family leaves were taken by 48 women which represented 20% of the female respondents. One male incumbent superintendent took a leave for family obligation. Table 4 presents these findings. Female aspirants (25%) were over twice as likely to report leave as were female incumbents (12%). Aspiring superintendents (34%) reported the highest percentage of leave as compared to the incumbent assistant superintendents (9%) who reported the lowest percentage.

Study leaves were taken by 15% of the respondents and the percentage of men (14%) and women (17%) reporting leave was significant. Table 5 presents these findings. Both 15% of the aspirants and incumbents took leave, while certificate holders for the superintendency (23%) and the assistant superintendency (27%) were more likely than certificate holders for the elementary principalship (5%) and the secondary principalship (6%) to report study leave. Incumbent superintendents (36%) were almost three times more likely than aspiring superintendents (13%) to have taken leave for study.

Military leave was reported by 8 men which represented 2% of the male respondents. No female respondents reported military leave and apart from gender, no findings were significant.

The number of moves completed was on average 1.3 moves for all respondents with 57% of the respondents reporting that they had moved one or more times. Table 6 presents these findings. Men (1.4) and women (1.3) completed similar number of moves to obtain a new position. However, incumbents (1.7), were more likely to move than aspirants (1.0). Certificate holders for the superintendency (2.1) completed the greatest number of moves with female incumbents (3.7) reporting the highest number in this subgroup. Certificate holders for the elementary principalship (.9) were the least likely to move to a new school district with aspiring male elementary principals (.5) reporting the fewest number of moves. Aspiring certificate holders along with incumbent elementary principals and incumbent secondary principals were found to evidence a similar pattern of low mobility ranging on average from .8 to 1.3 moves. This pattern differed significantly from incumbent superintendents and incumbent assistant superintendents who completed on average 3.1 and 2.2 moves respectively.

Age at Bachelor's degree was on average 22.8 years for all respondents. Results were non-significant.

Age at Master's degree was on average 28.8 years for all respondents. Results were also non-significant.

Age at Doctoral degree was on average 38.4 years for all respondents. Table 7 presents these findings. Women received their doctorates at an average age of 39.9 years as compared to men who received their degrees 2.6 years earlier at an average age of 37.3 years. Aspiring female secondary principals (56.0) were the oldest of all respondent subgroups at the time they received a doctorate while aspiring male assistant superintendents (35.2) were the youngest to receive their degrees. Incumbents (38.2) and aspirants (38.6) obtained their degrees at similiar ages. However, further analysis indicated that while incumbents certificate holders, aspiring superintendents and aspiring assistant superintendents attained their degrees between the ages of 36.7 and 39.8 years, aspiring elementary principals (45.3) and aspiring secondary principals (49.5) attained their degrees at a significantly later age.

Age at certification for the superintendency, the assistant superintendency, the elementary principalship and the secondary principalship included incumbent and aspiring certificate holders for these positions. However, many certificate holders held one or more additional certificates for line positions below their highest level of certification. Therefore, the analysis of age at certification for the superintendency, the assistant superintendency, the elementary principalship and the secondary principalship included all respondents who were issued certificates for these positions on which age data were available. The percentage of certificate holders for the superintendency who also held certificates for

Aspiring superintendents received their secondary principal's certification at 37.0 years of age while incumbent superintendents received their secondary principal's certification three years earlier at an average age of 34.1 years. Both aspiring and incumbent assistant superintendents received their secondary principal's certificates at 35 years of age. Aspiring elementary principals (34.5) were younger when they obtained certification for the secondary principalship as compared to incumbent elementary principals who reported on average 37.5 years of age. Aspiring secondary principals were also younger when compared to incumbent secondary principals reporting ages of 38.0 and 41.0 respectively.

Age beginning teaching was 23.2 years of age on average for all respondents with results found to be non-significant.

Years in teaching was on average 10 years for all respondents. Table 10 presents these findings. Women had acquired 11.1 years of teaching experience as compared to men who had acquired 9.3 years. Aspirants (10.9) taught on average 2 years longer than incumbents (9.0). Certificate holders for the elementary principalship (11.8) and the secondary principalship (11.2) taught longer than certificate holders for the assistant superintendency (9.5); while certificate holders for the superintendency reported the least experience with 7.5 years on average in the classroom. Incumbent superintendents (7.4), aspiring superintendents (7.6) and incumbent assistant superintendents (7.3) reported similiar years of experience. Incumbent secondary principals taught approximately 2 years longer reporting 9.2 years on average. The aspiring assistant superintendents (10.9), the aspiring secondary principals (13.1), the aspiring elementary principals (12.7) and the incumbent elementary principals (11.0) all taught over 10 years.

the elementary principalship was 30%. The percentage of certificate holders for the superintendency who also held certificates for the secondary principalship was 71%. The percentages of certificate holders for the assistant superintendency who also held certificates for the elementary principalship and the secondary principalship was 43% and 66% respectively.

Age at certification for the superintendency was 39.9 years on average for all respondents. Men obtained certification at an average age of 38.7 years while women waited on average 3.7 years longer, obtaining certification at an average age of 42.4 years.

Age at certification for the assistant superintendency was 37.9 years on average for all respondents with results found to be non-significant. Men and women both obtained certification for the assistant superintendency at similiar ages.

Age at certification for the elementary principalship was 36.9 years on average for all respondents. Table 8 presents these findings. Men obtained certification at an average age of 34.7 years as compared to women who were 39.1 years of age. Aspirants (36.0) were younger than incumbents (37.8) when they received their certificates.

Age at certification for the secondary principalship was 37.1 years on average for all respondents. Table 9 presents these findings. Men obtained certification at an average age of 36.4 years as compared to women who were 38.5 years of age. Certificate holders for the superintendency (35.7) and the assistant superintendency (35.5) reported similiar ages at the time they received their secondary principal's certificate. Certificate holders for the secondary principalship were significantly older when they received their certification for the secondary principalship reporting on average 39.5 years of age.

Age at first administrative appointment was 33.3 years on average for all respondents. Table 11 presents findings on age upon entry into administration. Men were on average 31.8 years of age when they began their administrative career while women were 4 years older averaging 36.0 years of age. Aspirants (34.0) were older than incumbents (32.8). Certificate holders for the superintendency were youngest to assume an administrative position at 31.6 years on average followed by certificate holders for the assistant superintendency who averaged 33.1 years. Certificate holders for the elementary principalship and the secondary principalship were both on average 35 years when appointed to their first administrative position.

Years in administration was on average 11.1 years for all respondents. Table 12 presents findings on years in administration. Women reported on average 8.6 years as compared to men who had acquired four more years of experience, averaging 12.7 years. Again, incumbents had more administrative experience when compared to aspirants reporting on average 15.4 years and 7.6 years respectively. Certificate holders for the superintendency has acquired 15.4 years in administration, certificate holders for the assistant superintendency had 10.2 years, certificate holders for the secondary principalship had 10.7 years and certificate holders for the elementary principalship has 8.1 years. The incumbent superintendents had acquired the most administrative experience reporting on average 18.01 years. They were followed closely by the incumbent assistant superintendents and the secondary principals who had acquired 17.2 years and 16.3 years of experience respectively. The incumbent elementary principals had less experience reporting on average 11.4 years. In contrast, the aspiring superintendents reported on average 13.4 years.

However, the aspiring assistant superintendents had acquired fewer years in administration reporting on average 6.3 years. They were followed closely by the aspiring secondary principals and the elementary principals who reported 5.5 years and 4.1 years of administrative experience respectively.

Years of educational experience was on average 21.0 years for all respondents. Table 13 presents these findings. Women reported on average 19.4 years of experience as compared to men who reported on average 22.0 years. As would be expected, incumbents had acquired more experience when compared to aspirants averaging 24.2 years and 18.3 years respectively. Comparison of certificate levels resulted in similiar findings in that certificate holders for the superintendency (22.8) had acquired the most experience, followed by certificate holders for the secondary principalship (21.8) with certificate holders for the elementary principalship (19.6) and the assistant superintendency (19.7) reporting the least experience.

Discussion

Research on aspiring and incumbent administrators indicates that men are more likely than women to follow a line career path (Schmuck and Wyant, 1981; Ortiz, 1982; Shae, 1983, Marshall, 1984; Matthews, 1986; Kruse, 1987). Results of this study support this finding. Two-thirds of the female certificate holders continue to be channelled into staff positions where their performance is directed by line officers. Their contributions may remain largely unrecognized or undervalued because organizations tend to recognize only overall goal accomplishment which is attributed to the line officer (Dalton, 1959). The majority of the male certificate holders in this study follow line paths that provide longer career path opportunities for exposure, growth,.mobility and reward (Kanter, 1975). Their rewards

are tied to promotion up the line (Mintzberg, 1883). Findings in this study also suggest that this gender disparity in line/staff patterns may be widening in that from 70% to 94% of women aspiring to administrative positions are following a staff path. The continued promotion of women into staff positions will decrease their potential mobility into line positions (Edson, 1980; Pavlicko, 1985) by limiting their visibility and providing a "sheltered environment" (Greenfield, 1985) that inhibits their ability to learn prerequisite administrative skills. The higher percentage of male incumbent superintendents, assistant superintendents and elementary principals in line paths also indicates that men tend to move directly from teaching into line positions, while female incumbents are move likely to be appointed to staff positons before they are considered for line appointments.

Research on the career path to the superintendency has indicated that the elementary principalship and the secondary principalship differ in terms of potential for promotion to higher line office (Schmuck, 1975; Gaertner, 1979; Pacheco, 1982) with Gaertner(1979) describing the secondary principalship as the direct path to the superintendency. Pavan (1985) reported that "the secondary principalship continues to be dominated by men"; while Jones and Montenegro (1985) reported that women who are promoted are three times more likely to serve as elementary principals than as secondary principals. Results of this study also lend support to these findings. While 30% of the superintendent certificate holders also held certification for the elementary principalship, over 70% held certificates for the secondary principalship. Certificate holders for the elementary principalship also reported the lowest mobility and had acquired fewer years of administrative experience when compared to secondary principals.

Research on leaves indicates that the majority of aspiring and incumbent female administrators do not take leaves (Rometo, 1982; Shae, 1983; McKee, 1988). Findings on this study support this conclusion. Two thirds of the female respondents had never taken a leave of absence from their work. Women who reported leaves were almost equally divided in citing family or study obligations as their reason for taking leave, although female aspiring administrators were twice as likely as female incumbents to take a family leave. While the percentage of men and women who took study leaves was similiar, few men took leave for military service and only one male superintendent took a leave for family obligation. While this lone man should be recognized for his courageous stand given Shakeshaft's (1987) discussion on the organizational response to men who take paternity leave, the fact remains that while men have been freed from their military obligations, they have not assumed a larger role in meeting family obligations. Thus, women continue to shoulder major responsibility for child-care as they simultaneously assume the challenges of an administrative career and it is to their credit that so many women are able to do so.

Women are older than men when they receive their doctorates and certificates for the elementary principalship and the secondary principalship. However, they receive their assistant superintendencies at similiar ages when compared to men, only to fall behind again when completing certification requirements for the superintendency. This finding can be better understood in context of state certification requirements. In Pennsylvania, individuals enrolled in certification programs for the superintendency and the assistant superintendency complete the same graduate course of study. Individuals who have acquired 3 years of

are issued a superintendent's letter of eligibility. Individuals who have less than 3 years of administrative experience are issued an assistant superintendent's letter of eligibility. Comparison of findings on age at certification for the superintendency indicates that men receive their administrative certificates at an earlier age. This is not surprising in that men have acquired 4 more years of administrative experience as compared to women. Thus, the greater number of years in administration provides another career advantage for men when they seek a superintendency.

Overall, men in this study have served 2 1/2 years longer than women in terms of their educational experience. However, by the time they have attained their first administrative position, they have gained four years. Men continue to hold this advantage in terms of experience with the majority of men moving through a succession of line appointments. Findings indicate that these differences cannot be attributed to an unwillingness of women to move, and, since the majority of the women do not take leave, neither do extended absences provide a reasonable explanation. What is evident from the findings is that women teach on average two years longer than do men and women move through staff positions which further reduce their opportunity for administrative experience.

Implications

Women aspiring to line administrative positions need to be made aware of the limitations imposed by appointment to staff positions. They need to be informed that they will neither further their careers or gain leadership positions in Education by allowing themselves to be channelled into a staff path where they serve line officers. However, informing women of the drawbacks inherent in a succession of staff appointments provides

of the drawbacks inherent in a succession of staff appointments provides only a bandaid solution. Research indicates that women do apply for line positions, but despite their qualifications, they are not hired (Pavan, 1989). At the American Association of School Personnel Administrator's national conference in October, 1988, an assistant superintendent spoke on the evaluation procedures used to select educational administrators. In discussing this sorting process, he stated "We [meaning school personnel administrators], all have our preferences - older or younger, men or women, internal or external. They are not legal questions. You can't ask them on an application, but this kind of sorting does take place." What was particularily disheartening about these remarks was the general tone of acceptance demonstrated by the administrators attending this meeting. No participant either questioned these observations or commented on the need for change. Despite 20 years of research documenting the abilities of women in administration, these pervasive discriminatory attitudes continue. Clearly educational organizations need consistent and highly vocal reminders that such practices continue and that the message of gender equality has not been heard.

Richards (1988) discussed the role of the school system as a microcosm of society's values and as a vehicle by which society slowly changes its' collective mind. Yet, even in areas where schools are faced with the consequences of societal prejudice, they are failing to take a leadership stand. Professional educators, as employees of school systems are keenly aware that parenting is a dual responsibility and that children in our society who are most at risk often lack male role models. Yet the fact remains that only one male incumbent in this study cited a leave for family or childrearing. Men in our schools may teach children but they are no more

likely to devote full-time responsibility to socializing their own children than are fathers within other occupations. Educational organizations need to provide support to women aspiring to administrative positions by acknowledging that the greater responsibilities imposed on women by society does not in any way reflect on their potential to provide leadership in our schools. Such support could include on-site day care, promotion of paternity leave and flexible scheduling for graduate work.

Administrators must reexamine their promotion policies and attitudes to determine whether they provide opportunities for women to assume line positions. They also need to reexamine the consequences of age grading by position whereby women encounter a double-bind in that they are given staff appointments prior to line promotion because they are perceived to be too young, only to be limited in further opportunities for promotion because they are perceived to be too old.

Finally, researchers must redouble their efforts to disseminate information on research findings to school district policy makers in order to sensitize them as to practices that support differential hiring of women into staff positions and to apprise them of the long term educational consequences of such actions in terms of leadership in our schools.

References

Dalton, Melville. Men Who Manage. New York: John Wiley & Sons, 1959.

Edson, Sakre K. "Female Aspirants in Public School Administration, Why Do They Continue to Aspire to Principalships?" Ed. D. diss., Western Michigan Univ., 1980.

Gaertner, Karen N. "The Structure of Careers in Public School Administration." Administrator's Notebook 27, no.9 (1979): 1-4.

Greenfield, William D. "Studies of the Assistant Principalship: Toward New Avenues of Inquiry." Education and Urban Society 18, no.1 (November, 1985b): 7-27.

Jones, Effie H. and Xenia P. Montenegro. Women and Minorities in School Administration ERIC, 1985. ED 273 017.

Kanter, Rosabeth Moss. Men and Women of the Corporation. New York: Basic Books, 1975.

Kruse, Marlies Renate. "Careers of Women and Men in Educational Admnistration: A Case Study." Ph. D. diss., Univ. of Oregon, 1987.

Marshall, Catherine. University Education Administration Programs and Sex Equity. ERIC. 1984. ED 272 970.

Matthews, Evelyn Nelson. "Women in Educational Administration: Support Systems, Career Patterns, and Job Competencies." Ph. D. diss., Univ. of Oregon, 1986.

McKee, Christine C. "Gender Differences in the Career Paths of Educational Administrators in Pennsylvania." Ed. D. diss., Temple Univ., 1988.

Mintzberg, Henry. Power in and Around Organizations. Englewood Cliffs: Prestice-Hall, 1983.

Ortiz, Flora Ida. Career Patterns in Education: Women, Men and Minorities in Public School Administration. New York: Praeger Publishers, 1982.

Pacheco, Betty Ann. "Barriers to Advancement in Educational Administration As Perceived By Women Administrators." Ed. D. diss., Univ. of the Pacific, 1982.

Pavan, Barbara Nelson. "Barriers to Hiring and Promotion Experienced by Certified Aspiring and Incumbent Female and Male Public School Administrators." American Educational Research Association. San Francisco: April, 1986.

Pavan, Barbara Nelson. Certified But Not Hired: Women Administrators in Pennsylvania. Research on Women in Education Conference, Boston, October, 1985. ERIC, 1985. ED 263 669.

Pavan, Barbara Nelson. "Searching for Female Leaders for America's Schools: Are the Women to Blame." University Council of Educational Administration. Scottsdale, Ariz.: October, 1989.

Pavlicko, Marie A. "Women in Educational Administration in the State of Ohio: Factors Relating to Upward Career Mobility." Ed.D. diss., Univ. of Akron, 1985.

Richards, Craig. "The Search for Equity in Educational Administration: A Commentary." Handbook of Research on Educational Administration. Ed. Norman J. Boyan. White Plains: Longman, 1988.

Rometo, Lorraine K. "Women Administrators in Pennsylvania's Public Schools--Overcoming Barriers to Recruitment and Promotion." Ed. D. diss., Temple Univ., 1982.

Schmuck, Patricia Ann. Sex Differentiation in Public School Administration. "Wanted: More Women" Series. U.S., Educational Resources Information Center, ERIC, 1975. ED 126 593.

Schmuck, Patricia A. and Spencer H. Wyant. "Clues to Sex Bias in the Selection of School Administrators: A Report from the Oregon Network." Educational Policy and Management: Sex Differentials. Ed. Patricia a. Schmuck, W.W. Charters, Jr. and Richard O. Carlson. New York: Academic Press, 1981.

Shea, Linda Romig. "Women and the High School Principalship: A Comparison of Male and Female Aspirations and Career Paths." Ed. D. diss., Lehigh Univ., 1983.

Shakeshaft, Charol Women in Educational Administration. Newbury Park: Sage Publications, 1987.

Table 1
Respondents by Gender and Position

Incumbents	Sample	Respondents	Percentage
Males			
Superintendents	100	60	60%
Assistant Superintendents	100	46	46%
Elementary Principals	100	46	46%
Secondary Principals	100	53	53%
Females			
Superintendents	19*	13	68%
Assistant Superintendents	14*	11	71%
Elementary Principals	100	51	51%
Secondary Principals	29*	18	62%
Subtotal	562	298	53%
Aspirants			
Males			
Superintendents	100	53	53%
Assistant Superintendents	100	47	47%
Elementary Principals	100	40	40%
Secondary Principals	100	33	33%
Females			
Superintendents	76*	35	46%
Assistant Superintendents	100	45	45%
Elementary Principals	100	34	34%
Secondary Principals	100	37	37%
Subtotal	776	324	41.8%
Total	1338	622	46.5%

*total population
Source:

Barbara Nelson Pavan, "Barriers to Hiring and Promotion Experienced by Certified Aspiring and Incumbent Female and Male Public School Administrators," American Education Research Association, New Orleans, April, 1985.

Table 2
Percentage of Respondents in Line Positions

N=593 TOTAL % = 49.	Superintendent n=157	Asst Supt n=139	Elem. Principal n=162	Sec. Principal n=135	
MALES - %					
Aspirants	.56	.37	.22	.52	
					(.59)
Incumbents	.86	.60	.93	.68	n=361
FEMALES - %					
Aspirants	.23	.24	.06	.30	
					(.33)
Incumbents	.54	.33	.51	.73	n=232
	(.59)	(.40)	(.43)	(.54)	

Aspirants: (.31) n=319
Incumbents: (.70) n=274

ANOVA	SUM OF SQUARES	DF	MEAN SQUARES	F	SIGNIF. OF F
MAIN EFFECTS					
Gender	4.821	1	4.821	25.260	.001
Asp/Inc Status	18.027	1	18.027	94.448	.001
Certificate Level	2.967	3	.989	5.181	.002
2-WAY INTERACTIONS					
Gender/Status	.176	1	.176	.924	.337
Gender/ Cert. Level	.824	3	.275	1.440	.230
Status/ Cert. Level	4.311	3	1.437	7.530	.001
3-WAY INTERACTIONS					
Gender/Status/Level	1.653	3	.551	2.887	.035
EXPLAINED	38.049	15	2.537	13.290	.001
RESIDUAL	110.130	577	.191		
TOTAL	148.179	592	.250		

Table 3
Percentage of Respondents Who Have Taken Leave

N=619 TOTAL % =.23	Superintendent n=160	Asst Supt n=147	Elem. Principal n=171	Sec. Principal n=141	
MALES					
Aspirants	.21	.21	.07	.03	
					(.16)
Incumbents	.35	.24	.04	.04	n=377
FEMALES					
Aspirants	.43	.51	.35	.27	
					(.34)
Incumbents	.62	.36	.14	.28	n=242
	(.34)	(.32)	(.14)	(.13)	
			Aspirants: (.26)		n=321
			Incumbents: (.20)		n=298

ANOVA	SUM OF SQUARES	DF	MEAN SQUARES	F	SIGNIF. OF F
MAIN EFFECTS					
Gender	6.132	1	6.132	38.596	.001
Asp/Inc Status	.002	1	.002	.015	.904
Certificate Level	7.461	3	2.487	15.655	.001
2-WAY INTERACTIONS					
Gender/Status	.23	1	.230	1.447	.229
Gender/Cert. Level	.07	3	.024	.151	.929
Status/Cert. Level	1.253	3	.418	2.630	.049
3-WAY INTERACTIONS					
Gender/Status/Level	.334	3	.111	.701	.552
EXPLAINED	14.703	15	.980	6.170	.001
RESIDUAL	95.798	603	.159		
TOTAL	110.501	618	.179		

Table 4
Percentage of Respondents Taking Family Leave

N=619 Total %=.08	Superintendent n=160	Asst Supt n=147	Elem. Principal n=171	Sec. Principal n=141	
MALES					
Aspirants	.0	.0	.0	.0	
Incumbents	.02	.0	.0	.0	(.0) n=377
FEMALES					
Aspirants	.34	.23	.26	.16	
Incumbents	.15	.09	.12	.11	(.20) n=242
	(.09)	(.07)	(.09)	(.06)	

Female Aspirants: (.25) n=149
Female Incumbents: (.12) n=93

ANOVA	SUM OF SQUARES	DF	MEAN SQUARES	F	SIGNIF. OF F
MAIN EFFECTS					
Gender	5.183	1	5.183	82.545	.001
Asp/Inc Status	.286	1	.286	4.548	.033
Certificate Level	.228	3	.076	1.210	.305
2-WAY INTERACTIONS					
Gender/Status	.582	1	.582	9.267	.002
Gender/Cert. Level	.245	3	.082	1.300	.274
Status/Cert. Level	.030	3	.010	.161	.922
3-WAY INTERACTIONS					
Gender/Status/Level	.091	3	.030	.481	.696
EXPLAINED	7.260	15	.484	7.708	.001
RESIDUAL	37.861	603	.063		
TOTAL	45.121	618	.073		

Table 5
Percentage of Respondents Taking Study Leave

N=619 Total %=.15	Superintendent n=160	Asst Supt n=147	Elem. Principal n=171	Sec. Principal n=141	
MALES					
Aspirants	.13	.19	.05	.03	
Incumbents	.33	.22	.04	.02	(.14) n=377
FEMALES					
Aspirants	.11	.40	.09	.11	
Incumbents	.46	.27	.02	.17	(.17) n=242
	(.23)	(.27)	(.05)	(.06)	

Aspirants: (.15) n=321
Incumbents: (.15) n=298

ANOVA	SUM OF SQUARES	DF	MEAN SQUARES	F	SIGNIF. OF F
MAIN EFFECTS					
Gender	.570	1	.570	4.960	.026
Asp/Inc Status	.276	1	.276	2.401	.122
Certificate Level	6.437	3	2.146	18.677	.001
2-WAY INTERACTIONS					
Gender/Status	.000	1	.000	.000	.995
Gender/Cert. Level	.536	3	.179	1.556	.199
Status/Cert. Level	1.754	3	.585	5.088	.002
3-WAY INTERACTIONS					
Gender/Status/Level	.374	3	.125	1.085	.355
EXPLAINED	9.752	15	.650	5.659	.001
RESIDUAL	69.275	603	.115		
TOTAL	79.027	618	.128		

Table 6
Mean Number of Moves Completed by Respondents

N=597 $\bar{X}$=1.3	Superintendent n=157	Asst Supt n=141	Elem. Principal n=163	Sec. Principal n=136	
MALES					
Aspirants	1.3	.8	.5	1.2	
Incumbents	3.0	2.1	.6	1.1	(1.4) n=362
FEMALES					
Aspirants	1.3	.9	1.3	.9	
Incumbents	3.7	2.5	1.1	1.0	(1.3) n=235
	(2.1)	(1.4)	(.9)	(1.1)	

Aspirants: (1.0) n=319
Incumbents: (1.7) n=278

ANOVA	SUM OF SQUARES	DF	MEAN SQUARES	F	SIGNIF. OF F
MAIN EFFECTS					
Gender	3.725	1	3.725	1.720	.190
Asp/Inc Status	104.048	1	104.048	48.051	.001
Certificate Level	161.063	3	53.688	24.794	.001
2-WAY INTERACTIONS					
Gender/Status	.925	1	.925	.427	.514
Gender/Cert. Level	12.706	3	4.235	1.956	.119
Status/Cert. Level	102.357	3	34.119	15.756	.001
3-WAY INTERACTIONS					
Gender/Status/Level	3.606	3	1.202	.555	.645
EXPLAINED	361.885	15	24.126	11.142	.001
RESIDUAL	1258.088	581	2.165		
TOTAL	1619.973	596	2.718		

Table 7
Mean Age at Doctoral Degree

N=165 $\bar{X}$=38.4	Superintendent n=76	Asst Supt n=66	Elem. Principal n=12	Sec. Principal n=11	
MALES					
Aspirants	36.8	36.2	39.0	43.0	
Incumbents	37.0	38.9	42.0	37.8	(37.3) n=97
FEMALES					
Aspirants	41.6	37.2	46.6	56.0	
Incumbents	38.0	42.5	37.2	38.8	(39.9) n=68
	(38.0)	(37.9)	(41.7)	(40.4)	

Aspirants: (38.6) n=85
Incumbents: (38.2) n=80

ANOVA	SUM OF SQUARES	DF	MEAN SQUARES	F	SIGNIF. OF F
MAIN EFFECTS					
Gender	164.069	1	164.069	4.136	.044
Asp/Inc Status	1.179	1	1.179	.030	.863
Certificate Level	110.683	3	36.894	.930	.428
2-WAY INTERACTIONS					
Gender/Status	37.565	1	37.565	.947	.332
Gender/Cert. Level	27.340	3	9.113	.230	.876
Status/Cert. Level	489.169	3	163.056	4.111	.008
3-WAY INTERACTIONS					
Gender/Status/Level	165.249	3	55.083	1.389	.249
EXPLAINED	1201.077	15	80.072	2.019	.017
RESIDUAL	5910.317	149	39.667		
TOTAL	7111.394	164	43.362		

Table 8
Mean Age at Certification for the Elementary Principalship

N=320 $\bar{X}$=36.9	Superintendent n=48	Asst Supt n=63	Elem. Principal n=167	Sec. Principal n=42	
MALES					
Aspirants	35.3	34.0	33.3	33.7	
Incumbents	32.7	35.9	35.9	38.7	(34.7) n=158
FEMALES					
Aspirants	38.7	36.5	37.9	39.4	
Incumbents	35.5	37.9	41.7	39.2	(39.1) n=162
	(35.8)	(35.7)	(37.4)	(38.0)	

Aspirants: (36.0) n=161
Incumbents: (37.8) n=159

ANOVA	SUM OF SQUARES	DF	MEAN SQUARES	F	SIGNIF. OF F
MAIN EFFECTS					
Gender	1654.312	1	1654.312	35.770	.001
Asp/Inc Status	322.198	1	322.198	6.967	.009
Certificate Level	158.874	3	52.958	1.145	.331
2-WAY INTERACTIONS					
Gender/Status	1.370	1	1.370	.030	.863
Gender/Cert. Level	123.650	3	41.283	.893	.445
Status/Cert. Level	242.172	3	80.724	1.745	.158
3-WAY INTERACTIONS					
Gender/Status/Level	94.577	3	31.526	.682	.564
EXPLAINED	2592.613	15	172.841	3.737	.001
RESIDUAL	14059.384	304	46.248		
TOTAL	16651.997	319	52.201		

Table 9
Mean Age at Certification for the Secondary Principalship

N=375 $\bar{X}$=37.1	Superintendent n=115	Asst Supt n=96	Elem. Principal n=30	Sec. Principal n=132	
MALES					
Aspirants	35.7	35.5	34.5	37.5	
Incumbents	33.9	34.6	36.3	40.6	(36.4) n=255
FEMALES					
Aspirants	40.2	36.1	-	38.5	
Incumbents	35.7	37.9	38.6	42.5	(38.5) n=120
	(35.7)	(35.5)	(37.3)	(39.5)	

Aspirants: (37.0) n=191
Incumbents: (37.2) n=184

ANOVA	SUM OF SQUARES	DF	MEAN SQUARES	F	SIGNIF. OF F
MAIN EFFECTS					
Gender	262.087	1	262.087	5.638	.018
Asp/Inc Status	19.316	1	19.316	.416	.520
Certificate Level	1082.502	3	360.834	7.762	.001
2-WAY INTERACTIONS					
Gender/Status	1.470	1	1.470	.032	.859
Gender/Cert. Level	79.215	3	26.405	.568	.636
Status/Cert. Level	467.379	3	155.793	3.351	.019
3-WAY INTERACTIONS					
Gender/Status/Level	57.063	2	28.531	.614	.542
EXPLAINED	2219.748	14	158.553	3.411	.001
RESIDUAL	16735.601	360	46.488		
TOTAL	18955.349	374	50.683		

Table 10
Mean Years in Teaching

N=577 X̄=10.0	Superintendent n=152	Asst Supt n=132	Elem. Principal n=160	Sec. Principal n=133	
MALES					
Aspirants	7.6	10.3	12.3	13.5	
Incumbents	6.9	6.7	10.3	8.9	(9.3) n=353
FEMALES					
Aspirants	7.6	11.5	13.1	12.8	
Incumbents	9.2	10.0	11.7	10.5	(11.1) n=224
	(7.5)	(9.5)	(11.8)	(11.2)	

Aspirants: (10.9) n=308
Incumbents: (9.0) n=269

ANOVA	SUM OF SQUARES	DF	MEAN SQUARES	F	SIGNIF. OF F
MAIN EFFECTS					
Gender	145.046	1	145.046	5.634	.018
Asp/Inc Status	576.988	1	576.988	24.413	.001
Certificate Level	1689.896	3	563.299	21.881	.001
2-WAY INTERACTIONS					
Gender/Status	81.647	1	81.647	3.172	.075
Gender/Cert. Level	42.728	3	14.243	.553	.646
Status/Cert. Level	281.563	3	93.854	3.646	.013
3-WAY INTERACTIONS					
Gender/Status/Level	18.120	3	6.040	.235	.872
EXPLAINED	2949.726	15	196.648	7.639	.001
RESIDUAL	14442.267	561	25.744		
TOTAL	17391.993	576	30.194		

Table 11
Mean Age at First Administrative Appointment

N=458 X̄=33.28	Superintendent n=156	Asst Supt n=95	Elem. Principal n=107	Sec. Principal n=100	
MALES					
Aspirants	31.0	33.0	31.7	35.3	
Incumbents	30.0	30.8	32.4	33.3	(31.8) n=296
FEMALES					
Aspirants	34.6	37.3	40.6	37.5	
Incumbents	34.2	34.3	36.5	34.4	(36.0) n=162
	(31.6)	(33.1)	(34.6)	(34.5)	

Aspirants: (34.0) n=184
Incumbents: (32.8) n=274

ANOVA	SUM OF SQUARES	DF	MEAN SQUARES	F	SIGNIF. OF F
MAIN EFFECTS					
Gender	1364.677	1	1364.677	41.687	.001
Asp/Inc Status	235.886	1	235.886	7.206	.008
Certificate Level	712.082	3	237.361	7.251	.001
2-WAY INTERACTIONS					
Gender/Status	24.459	1	24.459	.747	.388
Gender/Cert. Level	152.551	3	50.850	1.553	.200
Status/Cert. Level	48.316	3	16.105	.492	.688
3-WAY INTERACTIONS					
Gender/Status/Level	69.675	3	23.225	.709	.547
EXPLAINED	2880.494	15	192.033	5.866	.001
RESIDUAL	14469.290	442	32.736		
TOTAL	17349.784	457	37.965		

Table 12
Mean Years of Administrative Experience

N=573 $\bar{X}$=11.1	Superintendent n=152	Asst Supt n=131	Elem. Principal n=158	Sec. Principal n=132	
MALES					
Aspirants	13.9	7.9	4.5	6.5	
Incumbents	18.7	17.4	12.4	16.5	(12.7) n=352
FEMALES					
Aspirants	12.6	4.4	3.7	4.7	
Incumbents	15.2	15.3	10.4	15.3	(8.61) n=221
	(15.4)	(10.2)	(8.1)	(10.7)	

Aspirants: (7.6) n=308
Incumbents: (15.3) n=265

ANOVA	SUM OF SQUARES	DF	MEAN SQUARES	F	SIGNIF. OF F
MAIN EFFECTS					
Gender	584.294	1	584.294	15.103	.001
Asp/Inc Status	8181.601	1	8181.601	211.480	.001
Certificate Level	4681.529	3	1560.510	40.336	.001
2-WAY INTERACTIONS					
Gender/Status	7.886	1	7.886	.204	.652
Gender/Cert. Level	56.725	3	18.908	.489	.690
Status/Cert. Level	762.538	3	254.179	6.570	.001
3-WAY INTERACTIONS					
Gender/Status/Level	51.112	3	17.037	.440	.724
EXPLAINED	15162.304	15	1010.820	26.128	.001
RESIDUAL	21548.880	557	38.687		
TOTAL	36711.183	572	64.180		

Table 13
Mean Years of Educational Experience

N=585 $\bar{X}$= 21.0	Superintendent n=154	Asst Supt n=136	Elem. Principal n=161	Sec. Principal n=134	
MALES					
Aspirants	21.4	18.2	16.8	19.8	
Incumbents	25.6	24.2	22.7	25.4	(22.0) n=355
FEMALES					
Aspirants	20.0	15.8	16.4	17.4	
Incumbents	24.4	25.3	21.7	25.6	(19.4) n=230
	(22.8)	(19.7)	(19.6)	(21.8)	

Aspirants: (18.3) n=319
Incumbents: (24.2) n=266

ANOVA	SUM OF SQUARES	DF	MEAN SQUARES	F	SIGNIF. OF F
MAIN EFFECTS					
Gender	210.353	1	210.353	5.647	.018
Asp/Inc Status	4594.786	1	4594.786	123.340	.001
Certificate Level	1106.743	3	368.914	9.903	.001
2-WAY INTERACTIONS					
Gender/Status	36.625	1	36.625	.983	.322
Gender/Cert. Level	6.530	3	2.177	.058	.981
Status/Cert. Level	127.730	3	42.577	1.143	.331
3-WAY INTERACTIONS					
Gender/Status/Level	84.767	3	28.256	.758	.518
EXPLAINED	6728.442	15	448.563	12.041	.001
RESIDUAL	21197.004	569	37.253		
TOTAL	27925.446	584	47.818		